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*MST PAD*

# **Modeling, Simulation and Training (MS&T) Product Area Directorate (PAD)**

## **New Horizons Symposium**

### **13-14 November 1997**

**Presented By:  
Mr. Tom Powis  
Acting Director  
ESC/DIS  
(781)-377-6420**

# Outline

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***MST PAD***

- ◆ Organization
- ◆ Mission
- ◆ Overview: existing contracts
- ◆ Overview: new projects
- ◆ Industry opportunities
- ◆ Future needs/trends

# MST PAD Organization

***MST PAD***

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Financial Management  
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# USAF M&S Vision

**MST PAD**

**Joint Synthetic Battlespace supporting better decisions and war-fighting skills to build the world's most respected air and space forces for the Joint Force Commander**

*-1995 4-Star M&S Summit*



**Analysis/Acquisition**  
**Better Decisions**

*Two  
communities  
A single vision  
to  
unite them*



**Training/Readiness**  
**Better Skills**

# MST PAD Vision

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***MST PAD***

**Be the ESC, Air Force, and DoD *center of excellence* for air and space *command and control* modeling and simulation products, tools and services for C2 acquisition, test, analysis, decision aids, training, exercises, wargames and agile combat support**

# MST PAD Mission

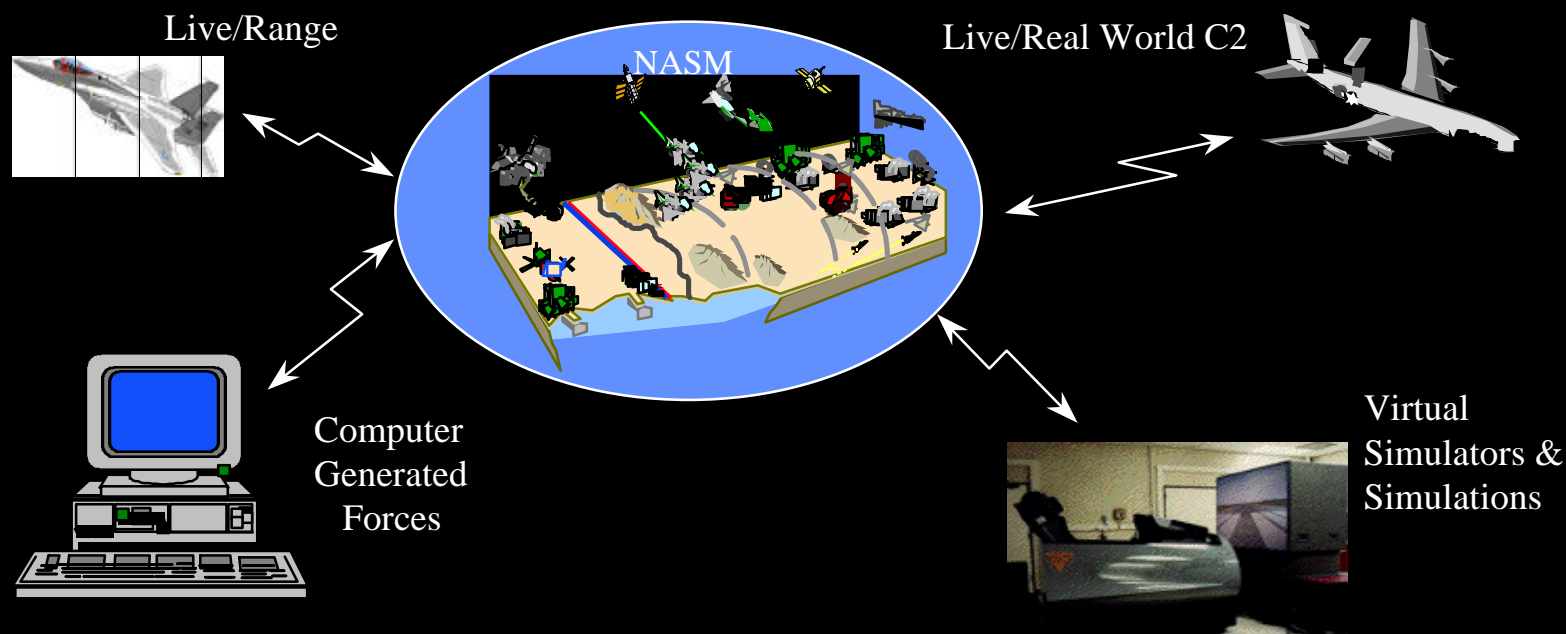
*MST PAD*

- ◆ C2 M&S Center of Excellence
- ◆ Provide State-of-the-Art M&S products, tools and services supporting training, acquisition and decision-making
- ◆ Provide synthetic environment for test, demos, exercises and studies at the CUBE
- ◆ Analytic M&S to support full range of System Development
- ◆ Soup-to-nuts technical capabilities to execute a wargame or exercise
- ◆ Extending C2 M&S Capabilities Through R&D

# **Overview: Existing “Contracts”**

# NASM Program

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- Simulation that realistically represents full range of aerospace power in Air Force and Joint Operational Readiness exercises
- Provide effective battlestaff training from Wing and up
- Capability for distributed collaborative exercises
- Interfaces with existing C4I systems and joint service models



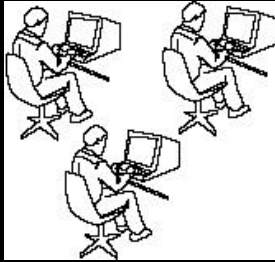
# NASM Contract

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- ◆ **Contract #F19628-97-C-0016, awarded 3 Mar 97**
- ◆ **Contractor: Raytheon Systems, Marlborough, MA**
- ◆ **Issuing office: ESC/DIK**
- ◆ **Cost Plus Award Fee (CPAF), competitive bid**
- ◆ **8-year contract, 7 for development, 1 for O&M**
- ◆ **ACAT III**
- ◆ **Current Total Value \$45M**

# Services Division: MASC

## MST PAD



**Constructive Analysis**  
AOA, COEA

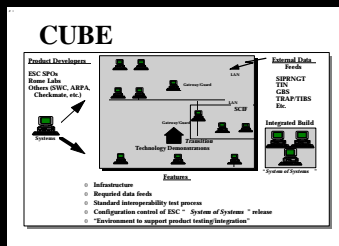


<b>Product Centers</b> (Interim) Chair Mr Jerry Arnett	<b>Logistics Centers</b> (Interim) Chair Mr Jim Gillis	<b>Science &amp; Technology</b> (Interim) Chair Maj Chung Kang	<b>Development Test Centers</b> (Interim) Chair Mr Larry Greene	<b>Training Simulation</b> (Interim) Chair Lt Col Tom Singleton
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**TPIPT Support**



**M&S Testbed**  
DARPA, DMSO, XOM, ACC, Joint  
[JSIMS, NASM, JWARS, JMASS, BADD, STOW]



**CUBE**  
[Virtual Battlespace]



**Educator Clearinghouse DoD AF Initiatives**  
[HLA, CMMS, MRCI]



**Warfighter Support, Exercises**



**M&S Strategy**



**Virtual Reality**

# Technology Application Division

***MST PAD***

- ◆ **Embedded Training & Decision Aids**
  - **Oversee R&D and foster development and applications of emerging M&S-based training & decision aids technologies**
- ◆ **C2 Systems Training**
  - **Provide opportunities for C2 SPOs to utilize M&S products to ensure training requirements are addressed in acquisition**
  - **Develop/foster technical standards; conduct/sponsor research; propose incorporation**
- ◆ **Systems Acquisition Support**
  - **Offer M&S support for Spiral Development**
- ◆ **Support TPIPTs with studies and plans**

# **Overview: New Projects**

# Next Generation Mission Level Model

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- ◆ **Schedule:TBD**
  - Requirements analysis just starting
- ◆ **Program value: TBD**
  - Estimate not yet started
- ◆ **Customer: JSF, ACC, DoD Labs**
- ◆ **POC:**
  - Mr. Bob Kurker
  - ESC/DIS
  - (781) 377-6556

# **Industry Opportunity Next Generation Mission Level Model**

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- ◆ **Void currently exists in the Mission/Theater area of joint model suite for RDT&E and analysis**
  - **C2, ISR, comm**
- ◆ **Develop new object oriented HLA compliant Mission-Level Model for Joint M&S community**
- ◆ **Anticipate full, open competition, CPAF**
- ◆ **Related prior efforts**
  - **Leverage JSF sponsored initial effort**
  - **Merger of Suppressor and SWEG legacy models (current AF and Navy mission level models)**
  - **ESC to provide program mgmt and technical support**
  - **JSF to provide funding and contract vehicle**

# Industry Opportunities

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- ◆ **Technology/objective**
  - Determine availability of embedded training and decision aid technology to meet additional (broader and lower-level) C2 training needs
- ◆ **Anticipated approach**
  - Issue CBD to solicit information and potential sources of new technology
- ◆ **New PAD initiative**
  - No prior related effort, but would build upon existing activities (e.g., NASM, MITRE research)
- ◆ **No contracting efforts identified yet**

# Future Needs/Trends

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- ◆ **Push toward a true Joint Synthetic Battlespace**
  - Architect appropriate links between DII-COE and HLA-based capabilities
  - Standardize M&S/C2 interfaces
  - Expedite re-use, data-sharing opportunities
- ◆ **More extensive embedded training capabilities for C2 systems**
  - Monitor and assess performance
  - Permit user to perform normal tasks in response to simulated inputs
- ◆ **Decision Aids**
  - Operational - Extend current analytic methodologies and tools for course of action analysis
  - Acquisition - Extend current analyses depicting military worth of various technical concepts